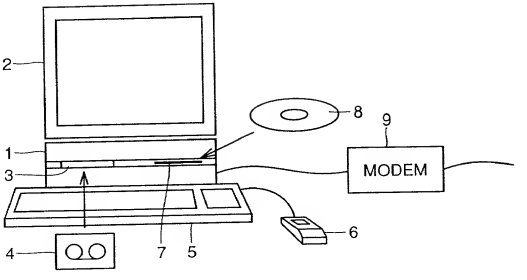
FIG.1



09773623.020201

FIG.2

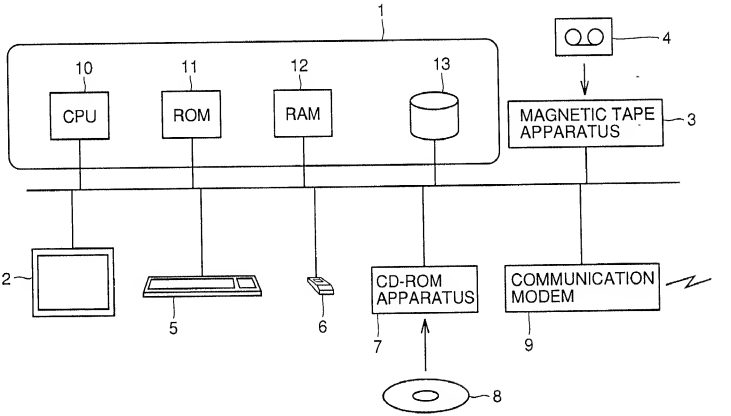


FIG.3

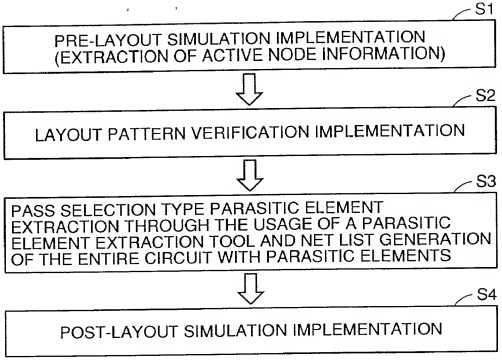

S1
PRE-LAYOUT SIMULATION IMPLEMENTATION (EXTRACTION OF ACTIVE NODE INFORMATION)
S2
LAYOUT PATTERN VERIFICATION IMPLEMENTATION
S3
PASS SELECTION TYPE PARASITIC ELEMENT EXTRACTION THROUGH THE USAGE OF A PARASITIC ELEMENT EXTRACTION TOOL AND NET LIST GENERATION OF THE ENTIRE CIRCUIT WITH PARASITIC ELEMENTS
S4
POST-LAYOUT SIMULATION IMPLEMENTATION

FIG.4A

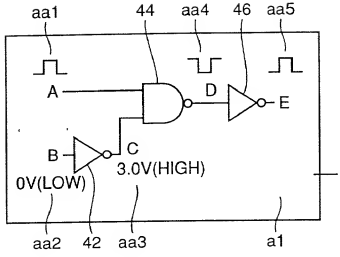


FIG.4B

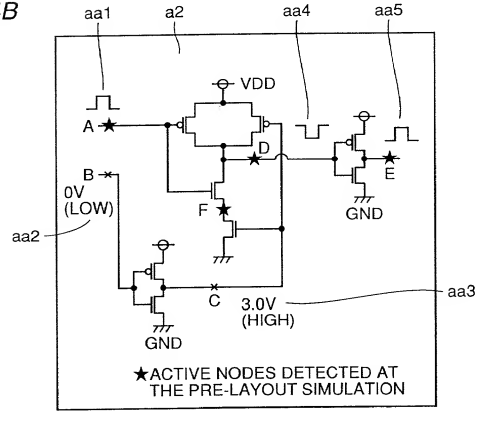


FIG.4C

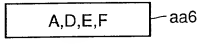


FIG.5A

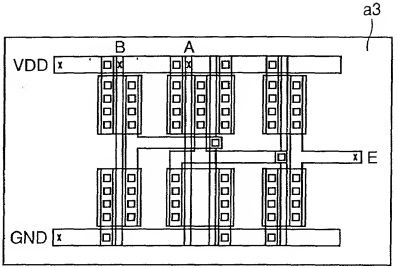


FIG.5B

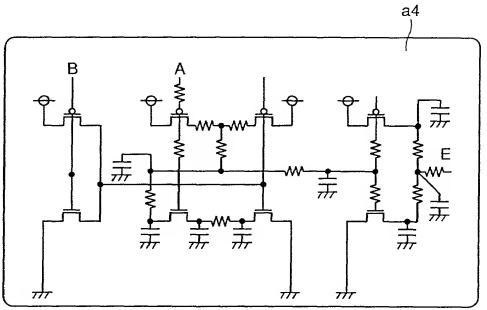


FIG.6

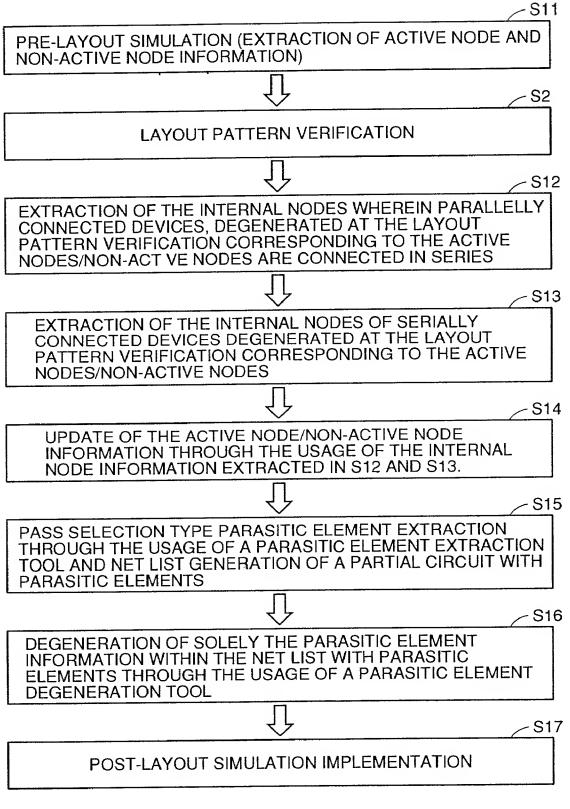

S11
PRE-LAYOUT SIMULATION (EXTRACTION OF ACTIVE NODE AND NON-ACTIVE NODE INFORMATION)
S2
LAYOUT PATTERN VERIFICATION
S12
EXTRACTION OF THE INTERNAL NODES WHEREIN PARALLELLY CONNECTED DEVICES, DEGENERATED AT THE LAYOUT PATTERN VERIFICATION CORRESPONDING TO THE ACTIVE NODES/NON-ACT VE NODES ARE CONNECTED IN SERIES
S13
EXTRACTION OF THE INTERNAL NODES OF SERIALLY CONNECTED DEVICES DEGENERATED AT THE LAYOUT PATTERN VERIFICATION CORRESPONDING TO THE ACTIVE NODES/NON-ACTIVE NODES
S14
UPDATE OF THE ACTIVE NODE/NON-ACTIVE NODE INFORMATION THROUGH THE USAGE OF THE INTERNAL NODE INFORMATION EXTRACTED IN S12 AND S13.
S15
PASS SELECTION TYPE PARASITIC ELEMENT EXTRACTION THROUGH THE USAGE OF A PARASITIC ELEMENT EXTRACTION TOOL AND NET LIST GENERATION OF A PARTIAL CIRCUIT WITH PARASITIC ELEMENTS
S16
DEGENERATION OF SOLELY THE PARASITIC ELEMENT INFORMATION WITHIN THE NET LIST WITH PARASITIC ELEMENTS THROUGH THE USAGE OF A PARASITIC ELEMENT DEGENERATION TOOL
S17
POST-LAYOUT SIMULATION IMPLEMENTATION

FIG.7A

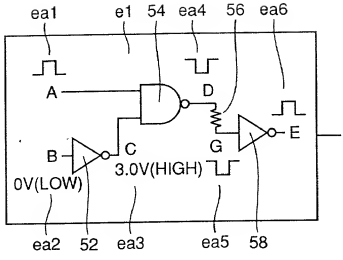


FIG.7B

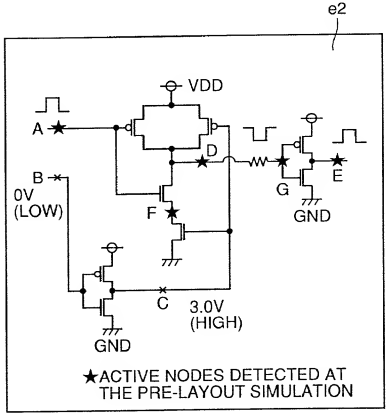


FIG.7C

(ACTIVE NODE INFORMATION)

A,D,E,F,G	ea7

FIG.7D

(NON-ACTIVE NODE INFORMATION)

C 3.0V	ea8

FIG.8A

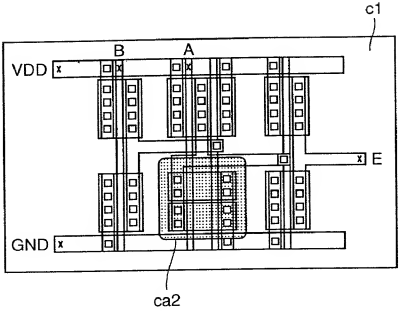


FIG.8B

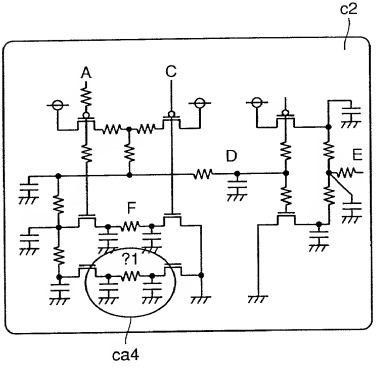


FIG.9A

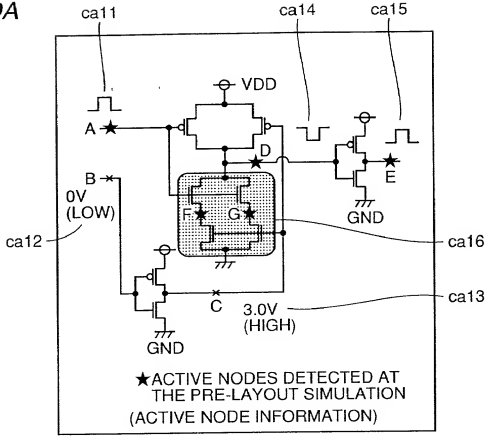

ca11
ca14
ca15
VDD
A
D
E
B
0V
(LOW)
F
G
GND
ca12
ca16
C
3.0V
(HIGH)
ca13
GND
★ACTIVE NODES DETECTED AT
THE PRE-LAYOUT SIMULATION
(ACTIVE NODE INFORMATION)

FIG.9B

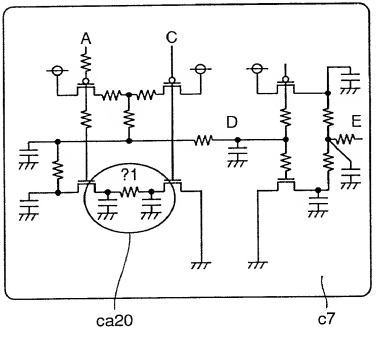

A
C
D
E
?1
ca20
c7

FIG.10A

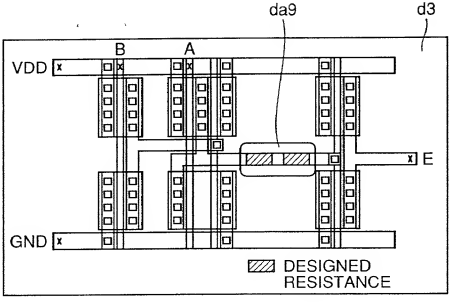


FIG.10B

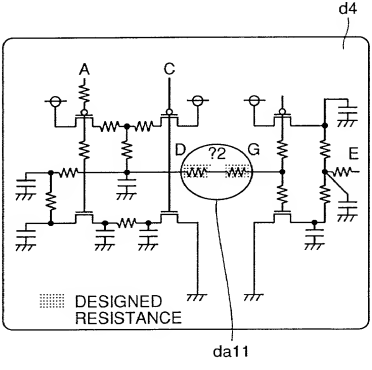


FIG.11

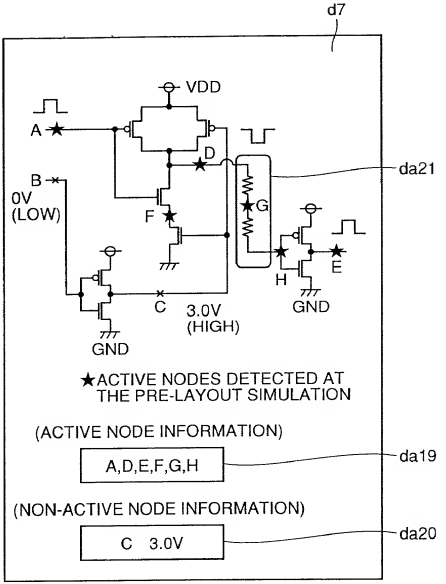

d7
VDD
A
D
da21
B
0V
(LOW)
F
G
H
E
C
3.0V
(HIGH)
GND
GND
★ACTIVE NODES DETECTED AT
THE PRE-LAYOUT SIMULATION
(ACTIVE NODE INFORMATION)
A,D,E,F,G,H
da19
(NON-ACTIVE NODE INFORMATION)
C 3.0V
da20

FIG.12A

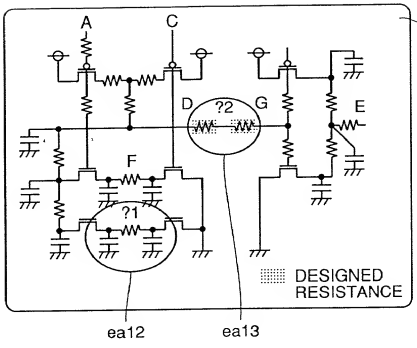


FIG.12B

(ACTIVE NODE INFORMATION)

A,D,E,F,G — ea7

(ADDITIONAL NON-ACTIVE NODE INFORMATION)

A,D,E,F,G,1,2 — ea11

FIG.12C

e5

R1_1	A#2	A#3	2.0
R1_2	A#3	A#4	3.0
R1_3	A#4	A#5	1.0
R1_4	A#3	A#5	4.0
R1_5	A#5	A#6	1.0
C1_1	A#2	GND	0.1PF
C1_2	A#3	GND	0.2PF
C1_3	A#4	GND	0.2PF
C1_4	A#5	GND	0.2PF
C1_5	A#6	GND	0.1PF

FIG.12D

e6

RAA1	A#2	A#6	5.0
CAA1	A#2	GND	0.4PF
CAA2	A#6	GND	0.4PF